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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,629	09/13/2000	Prakash Easwaran	TI-31194/TXN-0001	7657

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EXAMINER
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PHAM, TUAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 01/30/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/661,629

Applicant(s)

EASWARAN ET AL.

Examiner

TUAN A PHAM

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

The ADC 320 in the specification is not correlated with the ADC 330 in the figure 3.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 8-11, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Anne et al. (U.S. Patent No. 6,603,808, hereinafter, "Anne").

Regarding claim 1, Anne teaches a device for accurately generating a plurality of samples (see figure 2, CODEC 216, col.4, ln.50-60) representing data encoded according to a digital subscriber line (DSL) specification, the data being encoded in a

DSL signal and being received on a telephone line, the telephone line being shared by other devices used for home networking (see figure 2, POTS 200, col.5, ln.42-50, col.8, ln.48-55), the device comprising:

a filter coupled to the telephone line (see figure 2, filters 204, col.8, ln.48-64), the filter receiving an input signal on the telephone line and attenuating signal components corresponding to the home networking to generate a filtered output (see figure 2, POTS 200, col.8, ln.48-64),

a first amplifier amplifying the filtered output to generate an amplified signal (see figure 2, amplifier 208, col.8, ln.48-64), and

an analog to digital converter (ADC) sampling the amplified signal to generate the plurality of samples (see figure 2, ADC 216, col.8, ln.48-64, col.4, ln.50-60).

Regarding claim 8, Anne further teaches the device wherein the filter is implemented as an analog filter (see figure 2, filter 204, col.8, ln.48-64).

Regarding claim 9, Anne further teaches the device wherein the analog filter is implemented using active components. It is obvious the active filter implemented using operational amplifiers and resistors.

Regarding claim 10, Anne further teaches the device wherein the analog filter is implemented using passive components. It is obvious the passive filter implemented using operational amplifiers and resistors.

Regarding claim 11, Anne further teaches the device comprises a modem or a customer premises equipment (CPE) (see col.8, ln.48-50).

Regarding claim 19, Anne teaches a device for accurately generating a plurality of samples representing data encoded according to a digital subscriber line (DSL) specification (see figure 2, CODEC 216, col.4, ln.50-60), the data being encoded in a DSL signal and being received on a telephone line, the telephone line being shared by other devices used for home networking (see figure 2, POTS 200, col.5, ln.42-50, col.8, ln.48-55), the device comprising:

filtering means for attenuating signal components corresponding to the home networking to generate a filtered output, the signal components being received on an input signal, the input signal further containing a component according to the DSL specification, the filtered output containing the component according to the DSL specification (see figure 2, POTS 200, col.8, ln.48-64),

amplifier means for amplifying the filtered output to generate an amplified signal (see figure 2, amplifier 208, col.8, ln.48-64), and

converter means for generating the plurality of samples by sampling the amplified signal (see figure 2, ADC 216, col.8, ln.48-64, col.4, ln.50-60).

5. Claims 13-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Leung et al. (U.S. Patent No. 6,542,540, hereinafter, "Leung").

Regarding claim 13, Leung teaches a filter for processing a signal received on a telephone line (see figure 3, HPF 68, LPF 72), the telephone line being shared by a customer premise equipment (CPE) operating according to a digital subscriber line

Art Unit: 2643

(DSL) standard, the telephone line being shared by other devices used for home networking (see figure 1, ADSL modem 26, PC 18, col.2, ln.1-2), the filter comprising:

a high pass filter filtering any DSL transmission echo received on the telephone line, the high pass filter further filtering any voice communications also received on the telephone line (see figure 2, HPF 68, col.2, ln.11-35),

an amplifier amplifying the output of the high pass filter (see figure 2, PGA 70, col.2, ln.11-35), and

a low pass filter attenuating the signal components corresponding to the home networking to a level less than a desired noise floor (see figure 2, LPF 72, col.2, ln.11-35).

Regarding claim 14, Leung further teaches the high pass filter further attenuates high frequency components including the signal components corresponding to the home networking, wherein the attenuations of the high frequency components enables the amplifier to be implemented with a higher gain (see col.2, ln.28-45).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 2643

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2-4, 7, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anne et al. (U.S. Patent No. 6,603,808, hereinafter, "Anne") in view of Leung et al. (U.S. Patent No. 6,542,540, hereinafter, "Leung").

Regarding claim 2, Anne further teaches a device for accurately generating a plurality of samples (see figure 2, CODEC 216, col.4, ln.50-60) representing data encoded according to a digital subscriber line (DSL) specification, the data being encoded in a DSL signal and being received on a telephone line, the telephone line being shared by other devices used for home networking (see figure 2, POTS 200, col.5, ln.42-50, col.8, ln.48-55), the device comprising:

a filter coupled to the telephone line (see figure 2, filters 204, col.8, ln.48-64), the filter receiving an input signal on the telephone line and attenuating signal components corresponding to the home networking to generate a filtered output (see figure 2, POTS 200, col.8, ln.48-64),

a first amplifier amplifying the filtered output to generate an amplified signal (see figure 2, amplifier 208, col.8, ln.48-64), and

an analog to digital converter (ADC) sampling the amplified signal to generate the plurality of samples (see figure 2, ADC 216, col.8, ln.48-64, col.4, ln.50-60).

It should be noticed that Anne fails to clearly teach a high pass filter filtering any DSL transmission echo received on the telephone line, the high pass filter further filtering any voice communications also received on the telephone line, a second amplifier amplifying the output of the high pass filter; and a low pass filter filtering attenuating the signal components corresponding to the home networking to a level less than a desired noise floor in an environment based on the DSL. However, Leung teaches such features (see figure 2, col.2, ln.11-36) for a purpose of transmitting the low and high frequency signal in communication system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of a high pass filter filtering any DSL transmission echo received on the telephone line, the high pass filter further filtering any voice communications also received on the telephone line, a second amplifier amplifying the output of the high pass filter; and a low pass filter filtering attenuating the signal components corresponding to the home networking to a level less than a desired noise floor in an environment based on the DSL, as taught by Leung, into view of Anne in order to provide the high frequencies band to used for phone line networking at customer premises.

Regarding claim 3, Leung further teaches the high pass filter further attenuates high frequency components including the signal components corresponding to the home



networking, wherein the attenuations of the high frequency components enables the second amplifier to be implemented with a higher gain (see col.2, ln.11-36).

Regarding claims 4 and 15, Anne further teaches the device wherein the DSL comprises Asymmetric DSL (ADSL), and the home networking is performed according to home phone networking alliance (HPNA) standard, wherein the desired noise floor equals -150 dBm/Hz (see col.2, ln.1-3, col.8, ln.48-50).

Regarding claim 7, Leung further teaches an equalizer disposed between the high pass filter and the low pass filter, the equalizer compensating for the different attenuations to which different frequency signal components of the ADSL signal are subjected to when transmitted on a local loop (see figure 3, adaptive equalizer 92, col.6, ln.12-41).

9. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung et al. (U.S. Patent No. 6,542,540, hereinafter, "Leung") in view of Vorenkamp et al. (U.S. Patent No. 6,285,865, hereinafter, "Vorenkamp").

Regarding claim 16, Leung further teaches a filter for processing a signal received on a telephone line (see figure 3, HPF 68, LPF 72), the telephone line being shared by a customer premise equipment (CPE) operating according to a digital subscriber line (DSL) standard, the telephone line being shared by other devices used for home networking (see figure 1, ADSL modem 26, PC 18, col.2, ln.1-2), the filter comprising:

a high pass filter filtering any DSL transmission echo received on the telephone line, the high pass filter further filtering any voice communications also received on the telephone line (see figure 2, HPF 68, col.2, ln.11-35),

an amplifier amplifying the output of the high pass filter (see figure 2, PGA 70, col.2, ln.11-35), and

a low pass filter attenuating the signal components corresponding to the home networking to a level less than a desired noise floor (see figure 2, LPF 72, col.2, ln.11-35).

A high pass filter further attenuates high frequency components including the signal components corresponding to the home networking, wherein the attenuations of the high frequency components enables the amplifier to be implemented with a higher gain (see col.2, ln.28-45).

It should be noticed that Leung fails to clearly teach the high pass filter comprises a first resistor in series with an input capacitance, wherein the first resistor has a resistance substantially more than the internal resistance of the input capacitance, wherein the first resistor causes the attenuations of the high frequency components. However, Vorenkamp teaches such features (see figure 12, resistor 1238, capacitor 1236, col.21, ln.1-36) for a purpose of filtering the high frequency signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of high pass filter comprises a first resistor in series with an input capacitance, wherein the first resistor has a resistance substantially more than the internal resistance of the input capacitance, wherein the first

resistor causes the attenuations of the high frequency components, as taught by Vorenkamp, into view of Leung in order to provide the high frequencies band to used for phone line networking at customer premises.

Regarding claim 17, Vorenkamp further teaches the filter further comprising a second resistor in series with another stage contained in the high pass filter (see figure 12, resistor 1242, capacitor 1240, col.21, ln.1-36).

Regarding claim 18, Vorenkamp further teaches the filter wherein the high pass filter, the amplifier and the low pass filter are implemented in a monolithic integrated circuit (see col.17, ln.41-50).

10. Claims 5-6, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anne et al. (U.S. Patent No. 6,603,808, hereinafter, "Anne") in view of Leung et al. (U.S. Patent No. 6,542,540, hereinafter, "Leung") as applied to claim 1 above, and further in view of Vorenkamp et al. (U.S. Patent No. 6,285,865, hereinafter, "Vorenkamp").

Regarding claim 5, Anne and Leung, in combination, fails to clearly teach the high pass filter comprises a first resistor in series with an input capacitance, wherein the first resistor has a resistance substantially more than the internal resistance of the input capacitance, wherein the first resistor causes the attenuations of the high frequency components. However, Vorenkamp teaches such features (see figure 12, resistor 1238, capacitor 1236, col.21, ln.1-36) for a purpose of filtering the high frequency signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of high pass filter comprises a first resistor in series with an input capacitance, wherein the first resistor has a resistance substantially more than the internal resistance of the input capacitance, wherein the first resistor causes the attenuations of the high frequency components, as taught by Vorenkamp, into view of Leung in order to provide the high frequencies band to used for phone line networking at customer premises.

Regarding claim 6, Vorenkamp further teaches the filter further comprising a second resistor in series with another stage contained in the high pass filter (see figure 12, resistor 1242, capacitor 1240, col.21, ln.1-36).

Regarding claim 12, Vorenkamp further teaches the filter wherein the high pass filter, the amplifier and the low pass filter are implemented in a monolithic integrated circuit (see col.17, ln.41-50).

### **Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Mannering et al. (U.S. Patent No. 6,137,839), Amrany et al. (U.S. Patent No. 6,067,316), Isaksson et al. (U.S. Patent No. 6,493,395), and Muntz (U.S. Patent No. 6,532,215) are not applied into this Office Action, they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the

Art Unit: 2643

system and method for providing variable scaling of 16 bits fixed point fast fourier forward and circuit for combined XDSL and other services.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987 and E-mail address is: **tuan.pham@USPTO.GOV**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and

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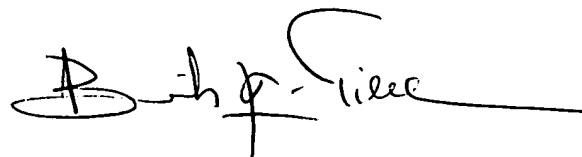
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Art Unit 2643

Date: January 23, 2004

Examiner

Tuan Pham



**BINH TIEU**  
**PRIMARY EXAMINER**